Amendments to the Claims

1. (currently amended) A semiconductor bridge igniter comprising:

a substrate;

an electrical bridge structure disposed on the substrate, the bridge structure being configured to have a bridge section extending between and connecting spaced-apart pad sections, each pad section being of larger area than the bridge section, ~~the bridge structure consisting essentially of~~ the pad sections and bridge section comprising a layer of semiconductor material on the substrate and a layer of titanium disposed on the semiconductor material ~~disposed over a layer of semiconductor material having a negative coefficient of electrical conductivity at temperatures above ambient temperature~~ and the bridge section being substantially free of tungsten disposed on the semiconductor material; and

a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed.

2. (original) The semiconductor bridge igniter of claim 1 further comprising a pair of electrical leads, one connected to a respective one of the electrically conductive lands.

3. (original) The semiconductor bridge igniter of claim 2 further including a source of electrical energy connected to each of the electrical leads to define an electrical circuit extending from one lead, to one of the electrically conductive lands, through the bridge section, thence to the other electrically conductive land and the other electrical lead.

4. (original) The semiconductor bridge igniter of claim 3, wherein the source of electrical energy comprises a capacitor.

5. (previously presented) The semiconductor bridge igniter of claim 1 wherein the substrate comprises silicon having a silicon dioxide layer, and wherein the electrical bridge structure is disposed upon the silicon dioxide layer.

6. (previously presented) The semiconductor bridge igniter of claim 1wherein the substrate comprises sapphire.

7. (currently amended) The semiconductor bridge igniter of claim 1 wherein the semiconductor material has ~~having~~ a negative coefficient of electrical conductivity at temperatures above ambient temperature ~~comprises polysilicon~~.

8. (currently amended) The semiconductor bridge igniter of claim 7 wherein the semiconductor material comprises polysilicon or crystalline silicon ~~is undoped~~.

9. (currently amended) The semiconductor bridge igniter of claim 1 wherein the semiconductor material ~~having a negative coefficient of electrical conductivity~~ comprises undoped crystalline silicon.

10. (canceled).

11. (previously presented) The semiconductor bridge igniter of claim 1 disposed in contact with an energetic material charge contained within the header of an igniter assembly.

12. (currently amended) A semiconductor bridge igniter comprising:

a substrate;

an electrical bridge structure disposed on the substrate, the bridge structure comprising a layer of a semiconductor material and ~~having a negative coefficient of electrical conductivity at temperatures above ambient temperature and having disposed thereover a~~ layer of titanium disposed on the semiconductor material, the titanium having been preconditioned to be stabilized against temperature-induced variations in resistance, the bridge struc-

ture comprising a bridge section extending between and connecting spaced-apart pad sections, each pad section being of larger area than the bridge section; and

a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed.

13. (previously presented) The semiconductor bridge igniter of claim 12 comprising titanium preconditioned by heating the igniter to an elevated temperature of from about 37°C to about 250°C.

14. (previously presented) The semiconductor bridge igniter of claim 12 comprising titanium preconditioned by heating the igniter to an elevated temperature of from about 100°C to 250°C.

15. (original) The semiconductor bridge igniter of claim 1, wherein said pair of electrically conductive lands comprises a metal.

16. (previously presented) The semiconductor bridge igniter of claim 15, wherein the electrically conductive lands comprise a metal selected from the group comprising aluminum, gold, silver, chromium, and combinations thereof.

17. (previously presented) The semiconductor bridge igniter of claim 12 further comprising a pair of electrical leads, one connected to a respective one of the electrically conductive lands.

18. (currently amended) A semiconductor bridge igniter consisting essentially of:

a substrate;

an electrical bridge structure disposed on the substrate, the bridge structure being configured to have a bridge section extending between and connecting

spaced-apart pad sections, each pad section being of larger area than the bridge section, ~~the bridge structure consisting essentially of~~ the pad sections and bridge section including a layer of semiconductor material on the substrate and a layer of titanium ~~disposed over a layer of~~ on the semiconductor material; and

a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed.

19. (canceled)

20. (canceled).

21. (canceled)

22. (canceled)

23. (canceled)

24. (canceled)

25. (currently amended) A semiconductor bridge igniter comprising:

a substrate;

an electrical bridge structure disposed on the substrate, the bridge structure being configured to have a bridge section extending between and connecting spaced-apart pad sections, each pad section being of larger area than the bridge section, ~~the bridge structure comprising a layer of~~ the pad sections and bridge section comprising a layer of semiconductor material on the substrate and metal disposed ~~over a layer of~~ on the semiconductor material, the ~~semiconductor material having a negative coefficient of electrical conductivity at temperatures above ambient tempera-~~

~~ture, and the layer of~~ metal disposed on the bridge section of the semiconductor material consisting of titanium; and

a pair of electrically conductive lands each overlying a respective one of the pad sections and being spaced apart from each other to leave the bridge section exposed.

26. (currently amended) The semiconductor bridge igniter of claim 18 or claim 25 further comprising a pair of electrical leads, one connected to a respective one of the electrically conductive lands.

27. (previously presented) The semiconductor bridge igniter of claim 26 further including a source of electrical energy connected to each of the electrical leads to define an electrical circuit extending from one lead, to one of the electrically conductive lands, through the bridge section, thence to the other electrically conductive land and the other electrical lead.

28. (previously presented) The semiconductor bridge igniter of claim 27, wherein the source of electrical energy comprises a capacitor.

29. (previously presented) The semiconductor bridge igniter of claim 25 wherein the substrate comprises silicon having a silicon dioxide layer, and wherein the electrical bridge structure is disposed upon the silicon dioxide layer.

30. (previously presented) The semiconductor bridge igniter of claim 25 wherein the substrate comprises sapphire.

31. (currently amended) The semiconductor bridge igniter of claim 25 wherein the semiconductor material has a negative coefficient of electrical conductivity at temperatures above ambient temperature ~~comprises polysilicon~~.

32. (currently amended) The semiconductor bridge igniter of claim 31 wherein the semiconductor material comprises polysilicon or crystalline silicon ~~is undoped.~~

33. (currently amended) The semiconductor bridge igniter of ~~claim 25~~ claim 31 wherein the semiconductor material comprises undoped crystalline silicon.

34. (currently amended) The semiconductor bridge igniter of ~~claim 33~~ claim 31 wherein the ~~crystalline silicon is undoped~~ semiconductor material comprises undoped crystalline silicon.

35. (previously presented) The semiconductor bridge igniter of claim 1, claim 12, claim 18 or claim 25 wherein the semiconductor material has, at ambient temperatures, a greater resistivity than the layer of titanium and, at an elevated temperature lower then the melting point of the layer of titanium, a lesser resistivity than the layer of titanium.